The invention relates to a transponder provided with an integrated circuit, an antenna, and a first capacitor provided with a dielectric and a first and a second capacitor electrode, which transponder comprises a stack of layers, i.e.:

- a first layer of a dielectric material,
- 5 a first patterned electrically conductive layer of which the antenna forms part,
  - a second layer of a dielectric material, and
  - a second patterned electrically conductive layer.

The invention further relates to an appliance provided with a transponder which comprises an integrated circuit, an antenna, and a first capacitor.

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